

CHAPTER 8

THE QUALITY ASSURANCE PROGRAM

When you have read and understood this chapter, you should be able to answer the following learning objectives:

- Define the quality assurance program.
 - Explain the quality assurance organization.
 - Identify the levels of responsibility for quality assurance.
 - Explain the quality assurance training required for personnel.
 - Define the terms used in quality assurance.
 - Identify the various quality assurance forms and records.
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The quality assurance (QA) program provides a uniform policy of maintenance and repair on ships and submarines. It improves discipline in the repair of equipment, safety of personnel, and configuration control. It is essentially a program to ensure that all work meets specifications or that any departure from specifications is approved and documented. You, the supervisor, are expected to carry out the QA program. This chapter will give you the broad knowledge you need to understand how it works.

CONCEPTS OF QUALITY ASSURANCE

The ever-increasing technical complexity of present-day surface ships and submarines has pointed to a need for special administrative and technical procedures known collectively as the QA program. The fundamental QA concept is that all maintenance personnel have the responsibility to prevent defects from the beginning to the end of each maintenance operation. You must consider QA requirements whenever you plan maintenance, and you must apply the fundamental rule, MEET TECHNICAL SPECIFICATIONS AT ALL TIMES.

Quality control (QC) means you regulate events rather than being regulated by them. It means you train competent sailors and supervise them so they work with proper methods, material, and tools. In other words, knowledge is the key, and knowledge comes from factual information. The QA program provides away to document and maintain information on the key characteristics of equipment. It helps you base decisions on facts rather than intuition or memory. It provides

comparative data that will be useful long after you have forgotten the details of a particular time or event. You can get knowledge from data, ship's drawings, technical manuals, material references such as APLs, and many other sources. As you use these sources, you will develop the special skills you need to analyze information and supervise QA programs. A good QA program provides enough information so you can change the workplace or procedures to accomplish the following goals:

- Improve the quality, uniformity, and reliability of the total maintenance effort.
- Improve the work environment, tools, and equipment used in maintenance.
- Eliminate unnecessary man-hour and dollar expenses.
- Improve the training, work habits, and procedures of maintenance personnel.
- Store, locate and distribute required technical information more effectively.
- Plan realistic material and equipment/maintenance tasks.

THE QA MANUALS

The Navy's fleet commanders in chief (CINC) publish and update QA manuals that set forth minimum QA requirements for both the surface fleets and the submarine force. The type commanders (TYCOMs) then publish QA manuals that apply to their forces but

that are based on the fleet CINC manuals. Since these CINC and TYCOM manuals apply to a wide range of ship types, equipment, and resources, the instructions are necessarily general in nature. Therefore, each activity must implement its own QA program that meets the intent of the latest versions of the fleet CINC and TYCOM QA manuals. If higher authority imposes more stringent requirements, they will take precedence. The Navy's QA program applies to maintenance done aboard ship by the ship's force, in intermediate maintenance activities (IMAs), shore intermediate maintenance activities (SIMAs), ship repair facilities (SRFs) and shipyards. However, this chapter will concentrate on QA work done by the ship's force.

QA PROGRAM COMPONENTS

The QA program includes administrative and job components. The administrative component includes the requirement to train and qualify personnel, monitor and audit programs, and complete the QA forms and records. The job component includes the requirement to prepare work procedures, meet controlled material requirements, requisition and receive material, conduct in-process control of fabrication and repairs, test and recertify equipment, and document any departure from specifications.

THE QA LINK TO MAINTENANCE

The Navy has a long-standing requirement that maintenance work must meet technical specifications. The person doing the maintenance is directly responsible for that requirement. Therefore, any worker who is expected to do the job properly must be properly trained, provided with correct tools and parts, familiar with the technical manuals and plans, and adequately supervised. These elements continue to be the primary means to assure that maintenance is performed correctly.

Once there is a decision to proceed with maintenance, you must apply QA requirements at the same time you plan the maintenance and supervise its completion. You will find technical information in a variety of sources, and you must decide what information fits a particular job. This may be the most difficult part of your planning effort. Once you decide, the maintenance objective becomes two-fold: (1) be sure the maintenance work meets all specifications, and (2) be sure the documentation is complete and accurate and can be audited.

THE QUALITY ASSURANCE ORGANIZATION

The Navy's QA program organization begins with the fleet CINCs, who provide the basic QA program requirements. The TYCOMs provide instruction, policy, and overall direction to implement and operate the force QA program. Each TYCOM assigns a force QA officer to administer the force QA program. The ships' commanding officers (COs) are responsible to the TYCOM, via the chain of command, for QA on their ships. The CO organizes and implements a QA program within the ship to carry out the provisions of the TYCOM's QA program, and he assigns key QA personnel for that purpose. In most cases, these key personnel are on collateral duty assignments. We will give you a brief description of the responsibilities of each of these positions followed by a discussion of their training and qualifications in the following pages.

THE COMMANDING OFFICER

The CO is responsible for the quality of material within a command, but he depends on the full cooperation of all hands to help meet this responsibility. The CO cannot maintain high standards of quality workmanship by merely creating a QA organization within a maintenance organization. The organization must have the full support of everyone within it. It is not the inspection instruments and instructions that bring high standards of quality; it is the attitudes of those who do the work. In the following paragraphs, we will look at the training and responsibilities for the key QA personnel previously described.

THE QUALITY ASSURANCE OFFICER

The quality assurance officer (QAO) is usually a collateral duty with the following responsibilities for the ship's QA program:

- Coordinate the QA training program as an integral part of the ship's overall training program.
- Maintain ship's QA records and test and inspection reports.
- Maintain departure-from-specifications records that can be audited, and review procedures and controlled work packages prepared by the ship.
- Conduct QA audits as required and follow up on corrective action to comply with the QA program.

- Prepare QA/QC reports to higher authority.
- Qualify key personnel in the QA program.

THE DIVISION OFFICER

Division officers make sure that all division personnel receive the necessary QA training and qualifications for their positions and that they carry out their QA responsibilities.

THE QUALITY ASSURANCE COORDINATOR

The quality assurance coordinators (QACs) are senior petty officers on collateral duty. If you are appointed to this position, you will train other QA personnel, conduct interviews for prospective QA personnel, and administer written examinations for QA qualifications.

THE SHIP QUALITY CONTROL INSPECTOR

If you are a work center supervisor, you will most often be appointed and trained in the collateral duty of ship quality control inspector (SQCI). In those roles, you will be deeply and directly involved in QA. You must be familiar with all aspects of the QA program and the QC procedures and requirements of your specialty. As an SQCI, you should act as an inspector or assign a collateral duty inspector at the same time you assign work to be sure the work is inspected in progress and on completion. Do not allow anyone in your shop to do a final inspection on his own work. Inspections normally fall into one of the following three inspection areas:

- **RECEIVING OR SCREENING INSPECTIONS** apply to material, components, parts, equipment, logs and records, and documents. They determine the condition of material, proper identification, maintenance requirements, disposition, and correctness of related records and documents.
- **IN-PROCESS INSPECTIONS** are specific QA actions that are required in cases where you cannot know whether the job was done right without the inspections. They include witnessing, application of torque, functional testing, adjusting, assembling, servicing, and installation.
- **FINAL INSPECTIONS** are done after a task or series of tasks is completed. An example is an

inspection of work areas after several personnel have completed tasks.

Most commands that have a QA program will issue you a special ID number that will identify you as a qualified SQCI. In addition, the QAO will assign a personal serial number to each shop SQCI as proof of certification. Use the number on all forms and tags that require initials as proof that certified tests and inspections were made. This will provide documented proof and traceability to show that each item or lot of items meets the material and workmanship for that stage of workmanship. Personnel who serve as SQCIs have the following responsibilities:

- Develop a thorough understanding of the QA program.
- Train all work center personnel until they are familiar with the QA/QC requirements that apply to your work.
- Be sure all level A shop work done by your work center personnel meets the minimum requirements in the latest plans, directives, and specifications of higher authority and that controlled work packages (CWPs) are properly used on repair work.
- Inspect all level I work for conformance to specifications and witness and document all tests on level I systems.
- Maintain records and files to support the QA program and be sure they follow the QA manual.
- When your people do acceptance tests, be sure test personnel use measuring devices, instruments, inspection tools, gauges, or fixtures that have current calibration stickers or records.
- When an inspection is beyond the capability of the ship's QA inspector, be sure a qualified inspector accepts the work before the ship installs the product.
- Report all deficiencies to the ship's QAC and keep the division officer informed. Help the division officer and QAO conduct internal audits and correct discrepancies.

WORK CENTER CONTROLLED MATERIAL PETTY OFFICER

If you supervise a work center that has level I material, you must be sure the procedures that govern controlled material are followed. You will usually

appoint a controlled material petty officer (CMPO) to handle these responsibilities in the work center. After training, that person will inspect, segregate, stow, and issue controlled material in the work center.

SHOP CRAFTSMEN

Shop craftsmen are not normally trained in specific QA functions as are the key QA people. Still, they must do their work under QA guidelines if they apply. They will work closely with their shop supervisors and QA inspectors to be sure the work is done according to QA guidelines and procedures.

QUALITY ASSURANCE TRAINING AND QUALIFICATION

The following paragraphs cover the responsibilities for training as well as training and qualifications of key QA personnel and others with less specific QA responsibilities.

THE QUALITY ASSURANCE OFFICER

The QAO coordinates the ship's QA training program and makes sure it is an integral part of the ship's overall training program. The QAO qualifies key personnel to serve in their collateral duty QA positions.

THE DIVISION OFFICER

Division officers ensure that their divisional personnel are trained and qualified in the QA processes and that they maintain those qualifications.

QUALITY ASSURANCE COORDINATORS

QACs are senior petty officers who have been properly qualified according to the QA manual. They help train all SQCI's and CMPOs and ensure their recertification when necessary. QACs also administer written examinations to prospective SQCI's and to SQCI's who require recertification.

SHIP QUALITY CONTROL INSPECTORS

The QAO interviews SQCI's to determine general knowledge of QA and attitude toward the QA discipline. If they are accepted, the QAO and QAC will qualify them in the requirements set forth in the QA manual and the command's QC requirements. Qualifications include formal instruction and OJT, a written examination on general requirements, and may include a practical examination on specific requirements in the

SQCI's specialty and in knowledge of records, reports, and filing. The shop qualification program course for SQCI's will answer this requirement.

CONTROLLED MATERIAL PETTY OFFICERS

On ships with level I systems, the QAO interviews E-4 and E-5 petty officers as prospective CMPOs. For those who pass the interviews, the QAO and QAC will train and qualify them as CMPOs. This includes written tests to be sure they are familiar with controlled material requirements as outlined in the QA manual and material identification control (MIC) manual.

OPERATION OF A QUALITY ASSURANCE PROGRAM

An effective, ongoing QA program is an all-hands effort. It takes the cooperation of all shop personnel to make the program work. As a key group supervisor, you will be responsible for keeping the program rolling.

PERSONNEL ORIENTATION

One of your first steps is to get the support of your personnel. Some of them will oppose the program but that is usually true of any new approach. The best way to overcome opposition is to show them how an effective QA program will help them personally. Explain how it will eliminate or reduce premature failures in repaired units and introduce high-reliability repairs. These improvements will reduce the workload, lower frustration, and improve the shop's or work group's reputation.

QUALITY ASSURANCE TERMS AND DEFINITIONS

You need to talk to your personnel about QA in terms they understand. Use words and phrases that suggest quality, and relate them to familiar programs. This should improve the clarity in your communication with them about QA. To do this, you need to understand the terms frequently used throughout the QA program. Each TYCOM's QA manual and MIL-STD-109 has a complete list of these terms. We have listed the ones used most frequently in the next paragraphs, and we will discuss the more important ones in more detail following the list.

- **Quality assurance:** A system that ensures that materials, data, supplies, and services conform to

technical requirements and that repaired equipment performs satisfactorily.

- **Quality control:** The management practices that promote quality repairs.
- **Acceptance:** When an authorized representative approves specific services rendered such as a repair or manufactured part.
- **Calibration:** The comparison of two instruments or measuring devices, one of which is a standard of known accuracy traceable to national standards. The purpose is to detect, correlate, report, or eliminate by adjustment any discrepancy in the accuracy of the instrument or measuring device being compared with the standard.
- **Inspection:** The examination and testing of components and services to determine whether they conform to specified requirements.
- **In-process inspection:** An inspection done during the manufacture or repair cycle to measure results. It is also done to identify production problems or material defects that cannot be detected when the job is complete.
- **Inspection record:** Contains the data compiled during an inspection.
- **Specifications:** Any technical or administrative directive, such as an instruction, a technical manual, a drawing, a plan, or a publication, that defines repair testing or performance criteria.
- **QA audit:** A periodic or special evaluation of practices, plans, policies, procedures, products, directives, and records necessary to determine how work is being done. The audit results are a tool for improvement.
- **Level I material:** Material that has been certified as to its material and physical properties as well as traceability to the manufacturer by a qualified certification activity. This material has a MIC number assigned along with a certification document. It is destined for a level I system, as defined in the MIC manual, and requires special handling.
- **Controlled material:** Any material that must be accounted for and identified throughout the manufacturing or repair process.

- **Controlled work package (CWP):** An assembly of documents identified by a unique serial number that may contain detailed work procedures, purchase documents, receipt inspection reports, objective quality evidence, local test results, and any tags, papers, prints, plans, and so on, that bear on the work performed. (See more information later in the chapter.)
- **Levels of assurance:** A systematic review of quality control records and all production actions to provide accountability that work performed or material manufactured will perform as expected and that there is documentary evidence to support that expectation. (See more information later in the chapter.)
- **Departure from specification:** A lack of compliance with any authoritative document, plan, procedure, or instruction. (See more information later in the chapter.)
- **Procedure:** A written instruction used in production and repair, giving all essential elements and guidance necessary to produce acceptable and reliable products.
- **Process:** A set of actions written in a special sequential order by which a repair or maintenance action, a test, or an inspection is done using specific guidelines, tools, and equipment.
- **Reliability:** The probability that an item will perform its intended function for a specified interval under stated conditions.
- **SUBSAFE:** An acronym for the Submarine Safety Program that provides a high level of confidence in the material conditions of the hull integrity boundary.

The Controlled Work Package

The CWP provides QC requirements and procedures to help ensure that fabrication or repair will produce a quality product. These requirements or procedures include both TYCOM and local command-generated information for processing and sign-off. The typical CWP will have QA forms, production task control forms, QC personnel sign-off requirements, and hydro or test forms. Each CWP covers the entire scope of the work process and is able to stand on its own. The job control number (JCN) provides traceability from the work package to other

certification documentation. When filled in, the CWP documents adherence to specified quality standards.

You must ensure that the CWP is at the job site during the performance of the task. If the work procedure requires the simultaneous performance of procedure steps that are done in different locations, use locally developed practices to control each step.

Immediately after a job is completed, each assigned work center and the QAO will review the CWP documentation to be sure it is complete and correct. If you and your workers have been doing the assigned steps as stated, this should not be a problem. Be sure all verification signature blocks are signed. Make sure all references, such as tech manuals or drawings, are returned to the appropriate place.

Levels of Assurance

To provide your customers both repair quality and quality assurance, you and your maintenance personnel must understand and appreciate your customers and their operational environment. This will require that you give serious thought and consideration to how a system's nonperformance may endanger personnel safety and threaten the ship's mission. For example, you will not be aboard the submarine as it does its deep dive to test hull integrity and your hull packing work. QA is divided into levels A or C, which are defined in the next paragraphs. Each level refers to the total of quality controls, tests, and/or inspections for an individual's fabrication or repair work.

- **Level A:** Assurance provides for the most stringent or restrictive verification techniques. This normally will require both quality controls and test or inspection methods.
- **Level C:** Assurance provides for minimum or "as necessary" verification techniques. This normally will require very little quality control or tests or inspections.

Departure from Specification

Specifications are engineering requirements such as type of material, processes, dimensional clearances, and physical arrangements, by which ship components are installed, tested, and maintained. Be sure your personnel maintain all ship systems and components according to specifications where possible. There are sometimes situations when you cannot meet specifications. In those cases, you must control the system or component with

a departure from specification, which must be recorded and approved.

A departure from specification is a lack of compliance with an authoritative document, plan, procedure, or instruction. As a minimum, departures from specifications are or are not required in the following situations:

- Submit a departure from specification when maintenance does not comply with technical documents, drawings, or work procedures that will not be corrected before the ship gets underway or puts the equipment in service. An example is a hydrostatic test made to less than required pressure.
- Submit a departure from specification when maintenance does not comply with specifications for "as found" conditions where there is no previous approval (such as a shipyard waiver), and the condition will not be corrected before the ship gets underway. An example is an excessive leak caused by vibration.
- Do not submit a departure from specification for noncomplying conditions discovered and not caused by maintenance or a maintenance attempt. As an example, you need only a CSMP entry for items that routinely fail and for which corrective action is planned.

SUPERVISOR'S REPORTING RESPONSIBILITIES.— The person who finds a departure has the responsibility to report it to his supervisor, who must in turn submit a departure from specification if the situation calls for it. Stress to all of your workers that any deviation from specifications must be recorded, reviewed, and approved by the proper authority. Be alert for any number of reasons some workers may deviate from specifications. Sometimes they simply do not understand the specification requirements, and sometimes they do not have the skills needed to meet specifications. At other times there is not enough time to plan and procure parts; therefore, a worker may make a temporary emergency repair that does not meet specifications. Whatever the reason, there are risks in operating outside specifications. You need to involve the chain of command in any decision to do so.

REPORTING PROCEDURES.— Who reports a departure from specification? The QA manual says that the person who discovers or causes the departure must initiate the departure from specification. However, does this mean that each time you cause a departure you

immediately start the paperwork? No! You must be sure the departure is identified during fabrication, during testing, or during inspection of the completed work. Make every effort to correct each deficiency before you initiate the departure request. Do not continue work until you correct the deficiency or get approval for the departure.

When you have identified a departure, what do you do with it? First, be sure the form in figure 8-1 is filled out and forwarded via the chain of command to the QAO.

The originator also must retain a copy of the prepared departure request until he or she receives the returned copy from the QAO showing that all actions

| | | | | | |
|-----------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|---------------------------------------------------------------------|
| DEPARTURE FROM SPECIFICATION REPORT SUBGEN QA FORM 4355/12 (7-85) 0115-LF-043-5665 | | | | DEPARTURE NO. | |
| FROM | | | | | |
| SHIP | HULL NO. | JSN | RE-ENTRY | DATE | |
| DEPARTURE TYPE | | | | | |
| <input type="checkbox"/> MAJOR | <input type="checkbox"/> MINOR | <input type="checkbox"/> A | <input type="checkbox"/> B | <input type="checkbox"/> C | <input type="checkbox"/> D <input type="checkbox"/> W |
| SYSTEM/COMPONENT/LOCATION | | | | | |
| NAVSEA DRAWING NUMBER/PLAN NUMBER/PIECE NUMBER | | | | | |
| TAB SIB SSCB REFERENCE | | | | | |
| APPLICABLE SPECIFICATION | | | | | |
| SITUATION DEGREE OF NON-COMPLIANCE | | | | | |
| COMMENTS RECOMMENDATION (TEST CONDUCTED EFFECTED THE SYSTEM ETC.) | | | | | |
| DATE ANSWER REQUESTED BY | SUBMITTED BY | QUALITY ASSURANCE OFFICER/IMA/SS _____ IMA REPAIR DUTY OFFICER SHIP'S DUTY OFFICER | | | |
| FROM: REPAIR OFFICER/CDO/ENGINEER | | | | | |
| TO: COMSUBRON _____ MATERIAL OFFICER/SHIP'S CO (MINOR C AND D ONLY) FORWARDED | | | | | |
| SIGNATURE (REPAIR OFFICER/CDO/ENGINEER) | | | | | |
| FROM: COMSUBRON _____ MATERIAL OFFICER/SHIP'S CO (MINOR C AND D ONLY) | | | | TYCOM DEPARTURE NO. | |
| TO: QUALITY ASSURANCE OFFICER/IMA REPAIR DUTY OFFICER/SHIP'S DUTY OFFICER | | | | | |
| VIA REPAIR OFFICER/CDO/ENGINEER | | | | | |
| SIGNATURE | | | DATE | | |
| COMSUBRON _____ MATERIAL OFFICER/SHIP'S CO (MINOR C AND D ONLY) | | | | | |

Figure 8-1. QA Form 12, Departure from Specification Request.

concerning the departure have been approved or disapproved. Be sure the originator has an approved copy of the departure request accompanying the completed work and that the original copy is retained in the CWP.

paragraphs. When using these forms, remember the rule that all QA forms must be completed and signed in the proper sequence.

QA FORMS AND RECORDS

The titles and descriptions of the QA forms and records you will use the most are listed in the next

**QA FORM 1, THE MATERIAL
RECEIPT CONTROL
RECORD**

The CMPO uses this record (fig. 8-2) to document the proper receipt and inspection of items that have been

| | | | | | | | | | | |
|----------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----------------|-----|------|--------------------|------------|------|-------|
| MATERIAL NOMENCLATURE | | LEVEL | | MIC NO/ID NO. | | | | | | |
| REQ NUMBER | | JULIAN DATE | | NUMBER RECEIVED | | | | | | |
| NSN | | VENDOR'S MARK | | | | | | | | |
| ACCEPTABLE CERTIFICATION DOCUMENTS FURNISHED (SIGNATURE AND DATE) | | | | | | | | | | |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | | | | | | | | | | |
| INSPECTION REQUIRED | | | | | | | | | | |
| ENTER APPROP. CODE | MT | PT | RT | UT | VIS | CHEM | PHYS | SPOT CHECK | MORS | DIMEN |
| x - RECORDS REQUIRED o - RECORDS NOT REQ'D | | | | | | | | | | |
| INSPECTION RESULTS/REMARKS AND SIGNATURE AND DATE | | | | | | | | | | |
| DISPOSITION | | UPGRADED | | | | | | | | |
| <input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT | | <input type="checkbox"/> SS <input type="checkbox"/> LI <input type="checkbox"/> NUC LI <input type="checkbox"/> NUC LIH <input type="checkbox"/> OTHER | | | | | | | | |
| DOWNGRADE | | | | | | | SIGNATURE AND DATE | | | |
| <input type="checkbox"/> GENERAL STOCK <input type="checkbox"/> REJECT TO SOURCE | | | | | | | | | | |

Figure 8-2.-QA Form 1, Material Receipt Control Record.


designated as controlled materials. This applies only to ships with level I systems.

QA FORM 2, NEW MATERIAL IN PROCESS CONTROL TAG

Supply, QA, or shop personnel attach this tag (fig. 8-3) to provide traceability of controlled material from receipt inspection through final acceptance. This applies only to ships with level I systems.

QA FORM 3, MATERIAL REJECT TAG

Shop personnel, supply, or QA personnel will attach this tag (fig. 8-4) to rejected items of controlled material. The individual finding or causing the unacceptable condition attaches the tag. The tag shows that material is unacceptable for production work and must be replaced or reinspected before use. This applies only to ships with level I systems.

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------|
|  TAG _____ of _____ NEW MATERIAL IN PROCESS CONTROL TAG | | |
| MIC NO. _____ | | |
| MAT LEVEL _____ | | OTHER _____ |
| <input type="checkbox"/> SS | <input type="checkbox"/> LI | |
| MATL DESCRIPTION _____ | | |
| NSN _____ | | |
| ISSUED FOR J.O. _____ | | |
| UIC _____ | WC _____ | JSN _____ |
| CAUTION ATTACHED MATERIAL REQUIRES SPECIAL HANDLING AND PROCESS CONTROL | | |
| SUBGCM QA FORM 4355/2 S/N 0115-LP-043-5511 | | |


| | |
|--------------------------------------------------------------------------------------------------------------------------------|--------------------|
|  IN-PROCESS CONTROL AND FINAL ACC | |
| WC NO. _____ | DATE _____ |
| REMARKS _____ | |
| _____ | |
| CMPO | |
| WC NO. _____ | DATE _____ |
| REMARKS _____ | |
| _____ | |
| QA INSPECTOR | |
| WC NO. _____ | DATE _____ |
| REMARKS _____ | |
| _____ | |
| QA INSPECTOR | |
| INSTALLATION FINAL ACCEPTANCE | |
| REMARKS _____ | DATE _____ |
| _____ | |
| DOT INSPECTOR _____ | WC INSPECTOR _____ |
| (WHEN REQUIRED) SHIP INSPECTOR _____ | |
| SUBGCM QA FORM 4355/2 GPO JACKET 507-836 | |

Figure 8-3.-QA Form 2, New Material In Process Control Tag.





| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div style="text-align: center; margin-bottom: 10px;">  </div> <p style="text-align: center;">PART I</p> <p>MATERIAL REJECT TAG</p> <hr/> <p>NIC/SERIAL NO. _____</p> <p>NATL LEVEL</p> <p> <input type="checkbox"/> SS <input type="checkbox"/> LI <input type="checkbox"/> BU LI <input type="checkbox"/> BU LI LI OTHER _____ </p> <hr/> <p>REASON _____</p> <hr/> <p>DATE REJECTED _____</p> <hr/> <p style="text-align: center;">PART II</p> <p style="text-align: center;">QA DISPOSITION REQUEST</p> <hr/> <p>NIC/SERIAL NO. _____</p> <hr/> <p>MATERIAL DESCRIPTION _____</p> <hr/> <p>THE SUPPLY DEPARTMENT/N.C. INSPECTOR IS HOLDING THE ABOVE MATERIAL IN A REJECTED STATUS. THIS MATERIAL IS OF A CRITICAL NATURE AND A FINAL DISPOSITION EVALUATION IS REQUIRED</p> <hr/> <p>LOCATION _____ DATE _____</p> <hr/> <p>REQUESTED BY _____</p> <hr/> <p style="font-size: small;">SUBGEN QA FORM 4355/3 (10/78) S/N 0113-LF-043-1515</p> | <div style="text-align: center; margin-bottom: 10px;">  </div> <p style="text-align: center;">PART III</p> <p style="text-align: center;">FINAL DISPOSITION BY QA</p> <hr/> <p>ACCEPTED AS _____</p> <p>DOWNGRADED TO _____</p> <p>RETURN TO SOURCE <input type="checkbox"/></p> <p>REMARKS _____</p> <hr/> <p>QA OFFICER SIGNATURE _____</p> <p>DATE _____</p> <hr/> <p style="font-size: small;">NOTE: PRIOR TO CARRYING OUT DISPOSITION ACTIONS, THE SHIP COMMANDING OFFICER/IMA REPAIR OFFICER SHALL BE NOTIFIED AS TO FINAL DISPOSITION EVALUATION FOR ALL REJECTED MATERIAL BY THE QUALITY ASSURANCE OFFICER</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 8-4.-QA Form 3, Material Reject Tag.

This tag (fig. 8-5) is used to identify controlled material to be repaired in an IMA. Attach the tag to the

| | |
|-----------------------------------------------------------------------------------|----------------------------------|
|  | |
| PART I | |
| TAG NO. _____ OF _____ | |
| SHIP TO SHOP TAG | |
| <input type="checkbox"/> NBC | <input type="checkbox"/> NBC III |
| <input type="checkbox"/> SS | <input type="checkbox"/> LI |
| <input type="checkbox"/> OTHER | |
| FROM USS _____ | HULL NO. _____ |
| EQUIP TYPE _____ | |
| SERIAL NO. _____ | NIC NO. _____ |
| DEL TO SHOP _____ | BY _____ DATE _____ |
| RCVD IN SHOP BY (QA INSPECTOR) _____ | |
| RBC NO. (FOR SS ONLY) _____ | |
| JCN _____ | |
| REMARKS _____ | |
| _____ | |
| _____ | |
| _____ | |
| _____ | |
| ----- | |
| PART II | |
| READY FOR PICKUP TAG | |
| TAG NO. _____ | SHOP _____ |
| JCN _____ | DATE _____ |
| FROM USS _____ | HULL NO. _____ |
| EQUIP DISCP _____ | |
| NIC NO. _____ | |
| SHOP REP SIG _____ | |
| PRESENT THIS TAG WHEN CALLING FOR MATERIAL | |
| ----- | |
| PART III | |
| READY FOR PICKUP TAG | |
| TAG NO. _____ | SHOP _____ |
| JCN _____ | DATE _____ |
| RCVD IN SHOP BY (QA INSPECTOR) _____ | |
| DEL TO SHOP BY _____ | |
| SHOPS ENGINEER SHALL RETAIN THIS PAGE AS A RECEIPT | |
| FOR MATERIAL DELIVERED TO SHOP | |
| SUBGEM QA FORM 4355/4 (7-85) | |
| S/N 0113-LF-043-5521 | |



PART IV
SUBGER QA FORM 4355/6 (7-85) (BACK)

CAUTION

THIS MATERIAL REQUIRES
SPECIAL HANDLING AND
PROCESS CONTROL

(WORK/TESTS PERFORMED)

NC QA INST SIGN _____

SHIP QA INST SIGN _____

USE QA FORM 5 OF QA FORM 6 FOR SUPPLEMENT

8-11

| QA FORM 7 | | | | | | | |
|-----------|-----|-----|-----|-----------------------|----------|-------------------------|-----------|
| SHIP | | JSN | | LEVEL OF ESSEN IALITY | | DESCRIPTION OF MATERIAL | |
| JOB TITLE | | | | MIC SERIAL NO. | | DWG. NO. | PART NO. |
| MILSPEC | | | | SIZE | | WORK CENTER | DATE |
| NSN/COG | | | | LOCATION | | AMOUNT REC. | REQ. NO. |
| DATE | UIC | WC | JSN | SYSTEM | AMT.USED | AMT. ON HAND | SIGNATURE |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

REMARKS

SUBMIT TO QA WHEN ITEM IS EXPENDED

CONTROLLED MATERIAL INVENTORY/RECORD

SUBGEN QA FORM 4355/7(10-78) 0113-LF-043-5535

Figure 8-6.-QA Form 7, Controlled Material Inventory/Record.

**QA FORM 7, CONTROLLED MATERIAL
INVENTORY/RECORD**

Your CMPO uses this form (fig. 8-6) to provide a standard inventory record of controlled material received and issued. This applies only to ships with level I systems.

**QA FORM 17, TEST AND INSPECTION
FORM-OTHER THAN NDT**

QA Form 17 (fig. 8-7) lists all the tests and inspections that must be performed at each step.

QA FORM 34, TORQUE/CONTROLLED ASSEMBLY REPORT

This form (fig. 8-8) consists of two enclosures: the torque sequence sketch and a QA Form 17 (fig. 8-7) listing all of the required torque readings.

| | | |
|-------------------------------------------------------|------------------|----------------------------------|
| TEST AND INSPECTION FORM - OTHER THAN NDT | | |
| SHIP | JSN | REC OR WORK PROCEDURE NO. |
| | LEAD SHOP | SER NO. |
| DESCRIPTION OF ITEM | | |
| DESCRIPTION OF TEST AND/OR INSPECTION COMMENTS | | |
| COMMENTS | | |
| SHOP/FIELD QA INSPECTOR | | DATE |
| SHIP REPRESENTATIVE | | DATE |
| QA SUPERVISOR | | DATE |
| COPY TO | | |

Figure 8-7. QA Form 17, Test and Inspection Form-Other than NDT.

TORQUE/CONTROLLED ASSEMBLY REPORT

DATE

| | | | | | | | | | |
|---------------------------------|--------|----------------------|----------------|--------------|--------------------|------------------------------------|------------|--------------------|-----------------|
| SHIP | | JCN | REC NO | | BOLT/STUD MATERIAL | | ENGAGEMENT | SIZE | TYPE |
| LWC | SYSTEM | DWG NO | JOINT ID | | BODY MAT | | REFERENCE | REQ TORQUE | TORQUE RE |
| TORQUE SEQUENCE SKETCH | | ASSEMBLY PROC & STEP | | | NUT MATERIAL | | TYPE | | INSPECTION REF. |
| | | POSITION | RUNNING TORQUE | FINAL TORQUE | THREAD PROTRUSION | GASKET/O-RING DATA | REF: | | |
| | | | | | | NSN | MIL-SPEC | EXP DATE | |
| | | 1 | | | | | | | |
| | | 2 | | | | | | | |
| | | 3 | | | | | | | |
| | | 4 | | | | | | | |
| | | 5 | | | | | | | |
| | | 6 | | | | | | | |
| | | ANTI-SEIZE MATERIAL | | 7 | | | | OTHER PARTS PLACED | REF: |
| 8 | | | | | | | | | |
| SEALING COMPOUND | | 9 | | | | | | | |
| | | 10 | | | | | | | |
| TORQUE DEVICE RANGE/SER. NO | | 11 | | | | | | | |
| | | 12 | | | | | | | |
| CAL DUE DATE | | 13 | | | | REMARKS (use reverse if necessary) | | | |
| | | 14 | | | | | | | |
| BLUE CHECK RESULTS | | 15 | | | | | | | |
| | | 16 | | | | | | | |
| SEALING SURFACE INSP. IAW | | 17 | | | | | | | |
| | | 18 | | | | CRAFTSMAN/DATE | | | |
| MICROMETER SER. NO/CAL DUE DATE | | 19 | | | | QA INSPECTOR/DATE | | | |
| | | 20 | | | | QA SUPERVISOR REVIEW/DATE | | | |

Figure 8-8. QA Form 34, Torque/Controlled Assembly Report.